

SCAG RTP Goods Movement Workshop

September 20, 2007

Ports of Long Beach/Los Angeles
Transportation and Air Quality Programs



Clean Air Action Plan Standards

- Project Specific:
Meet 10 in 1,000,000 excess cancer threshold
- Air Quality Conformity

SAN PEDRO BAY PORTS
Clean Air Action Plan
OVERVIEW



California Environmental Protection Agency
Air Resources Board



Prop. 1B Emission Reduction Projects

CAAP 5-Year commitments

● Vessels



- VSR, engine mod., fuels, AMP
- **\$201,000,000**

● Locomotives & Cargo Equipment



- New engines/equipment, engine mod., fuels
- 12/2011: frequent/semi-frequent trucks meet or exceed EPA 2007 PM standards
- **\$10,000,000+**

● *Truck Retrofit/Replacement*



Total Reductions:

1,186 tons/yr DPM by 5th year (>3,400 tons over 5 years)

12,148 tons/yr NOx (>37,500 tons); 2,433 tons/yr SOx (>7,900 tons)

CAAP Clean Trucks Program

- Replace or retrofit
 - Only certain years qualify for retrofit; CARB verified retro device
 - Remainder of fleet replaced to 2007 EPA standard
- Milestones
 - Jan. 2008: ban pre-1989 trucks
 - Jan. 2009: ban 1989-1993 trucks
 - Jan. 2010: ban 1994-1995 trucks
 - Jan. 2011: ban unretrofitted 1996-2003 trucks
 - Jan. 2012: ban unretrofitted 2004-2006 trucks
- Cost (\$1.805 billion)/Implementation & Funding
 - Ports - \$170 M (first 5 years); AQMD – \$36 M
 - State G.O. Bonds & impact fee to cover \$1.6 billion shortfall

Reducing Congestion/Emissions

1. Trip Reduction Measures

- increased on-dock rail
- more near/off-dock rail capacity
- empty container management
- Shuttle trains for local and/or intermodal cargo currently drayed (inland ports/logistics facilities)
- Alternative/zero emission conveyance technologies

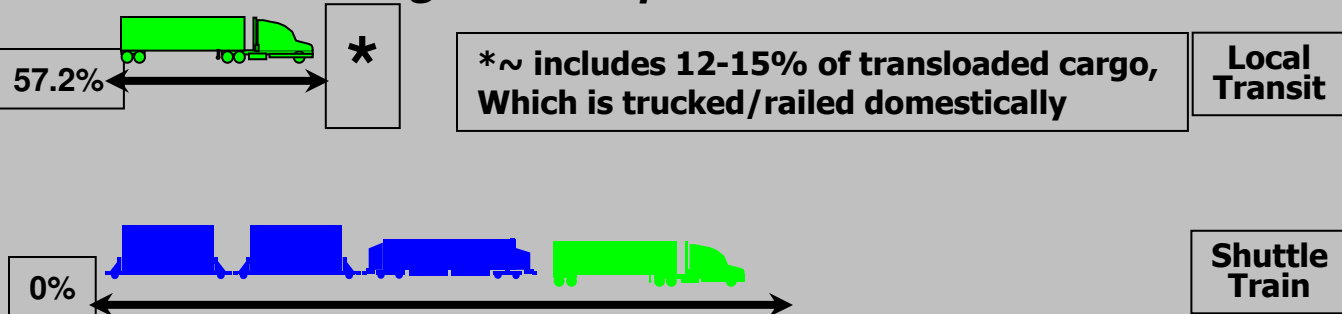
2. Transportation System Management

- Intelligent Transportation Systems (ATMIS)
- *Extended hours of operation of entire supply chain (PierPass)*

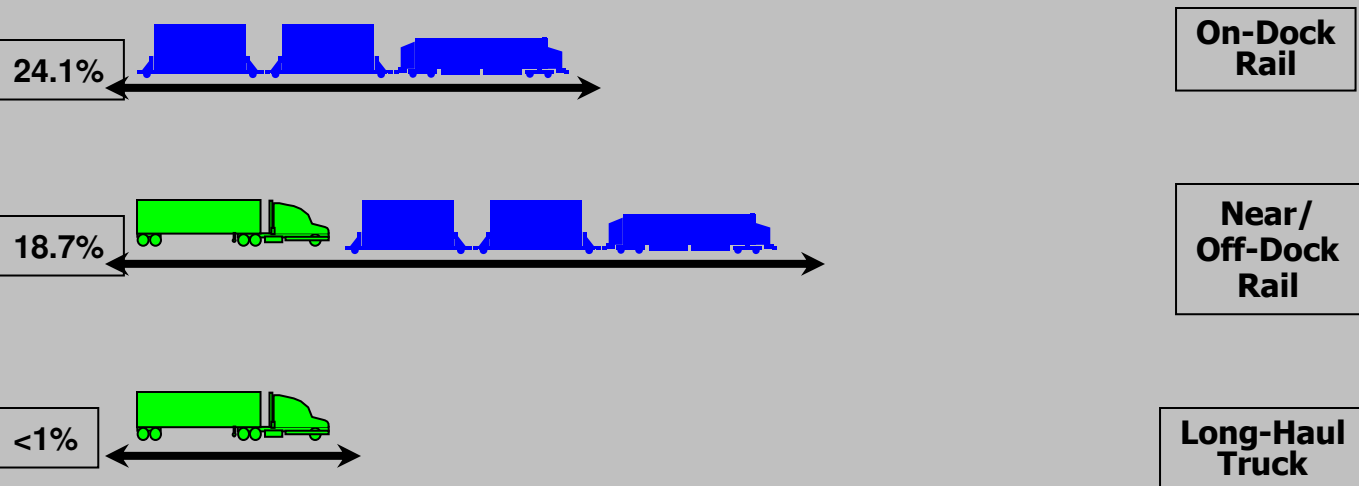
3. Physical Improvements

POLB/POLA Container Mode Splits

Regional Shipments



National Shipments/Direct Intermodal



San Pedro Bay Cargo Terminals

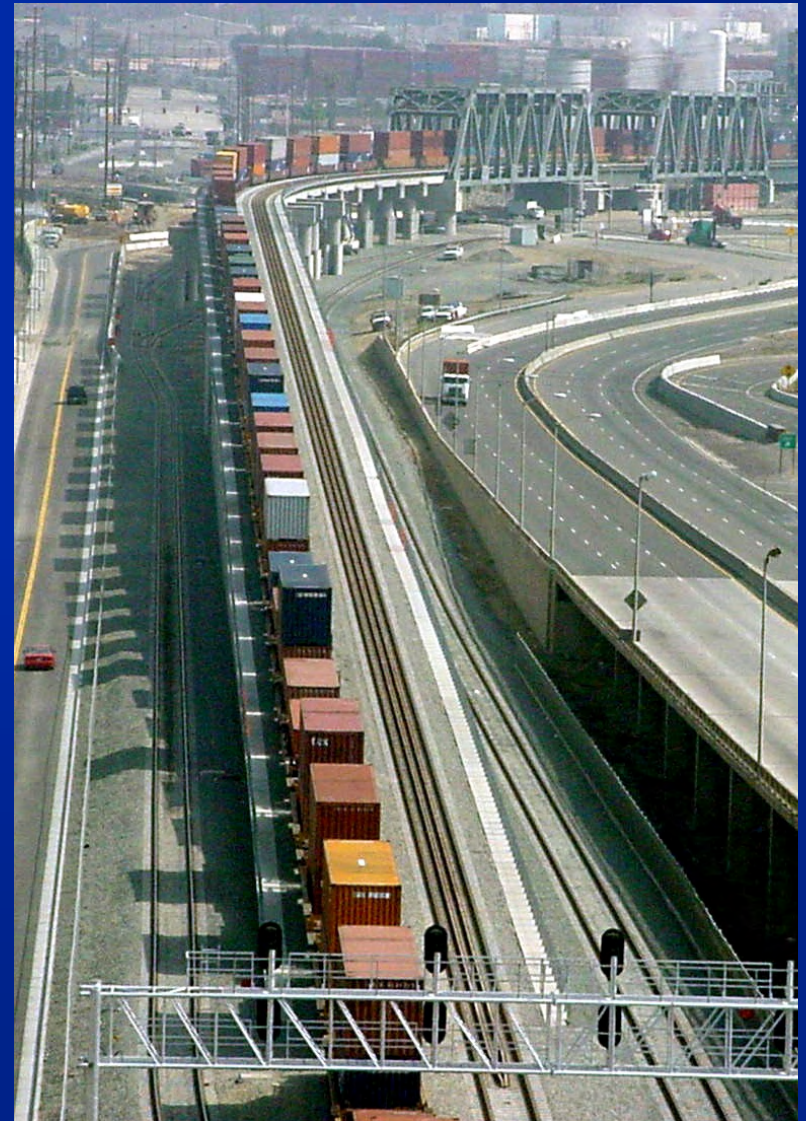
Container Vessel

Truck Reduction

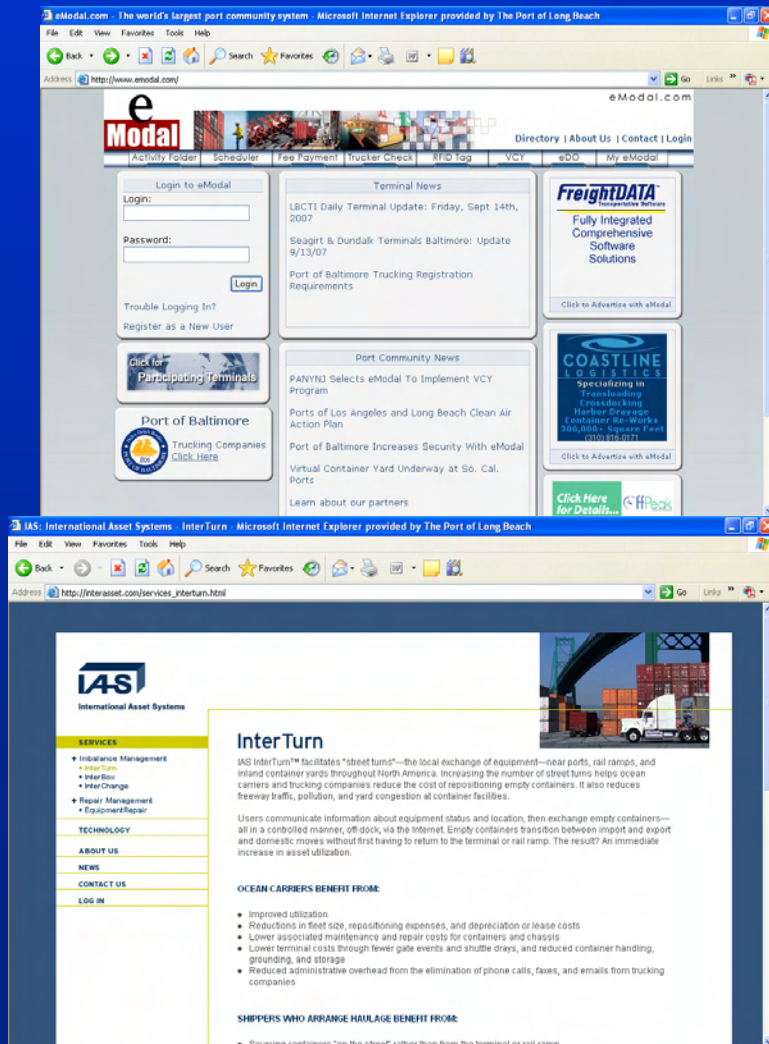
Ports Rail System Projects (\$631.1m)

Essential For On-Dock Rail (\$700m)

- Pier B Railyard & mini-ICTF (supported by MTA) - \$257.9 m
- New Cerritos channel rail bridge- \$91m
- Triple track s/o of Thenard - \$16.5m
- Reeves grade separation - \$61m
- Other in-port mainline - \$204.7m
- Benefits:
 - Additional on-dock rail capacity
 - Reduces train delays and emissions
 - Reduces daily Vehicle Miles of Travel (VMT) for Port trucks by about 64,500 miles.
 - Reduces daily Vehicle Hours of Travel (VHT) for Port trucks by about 2,300 hours



Truck Reduction Empty Container Management So. Cal Virtual Container Yard



- Sponsored by POLB/POLA/ACTA
- Joint venture of 2 private logistics IT companies: eModal and IAS
- direct interchange of MT between importers/exporters
 - System currently in limited operation

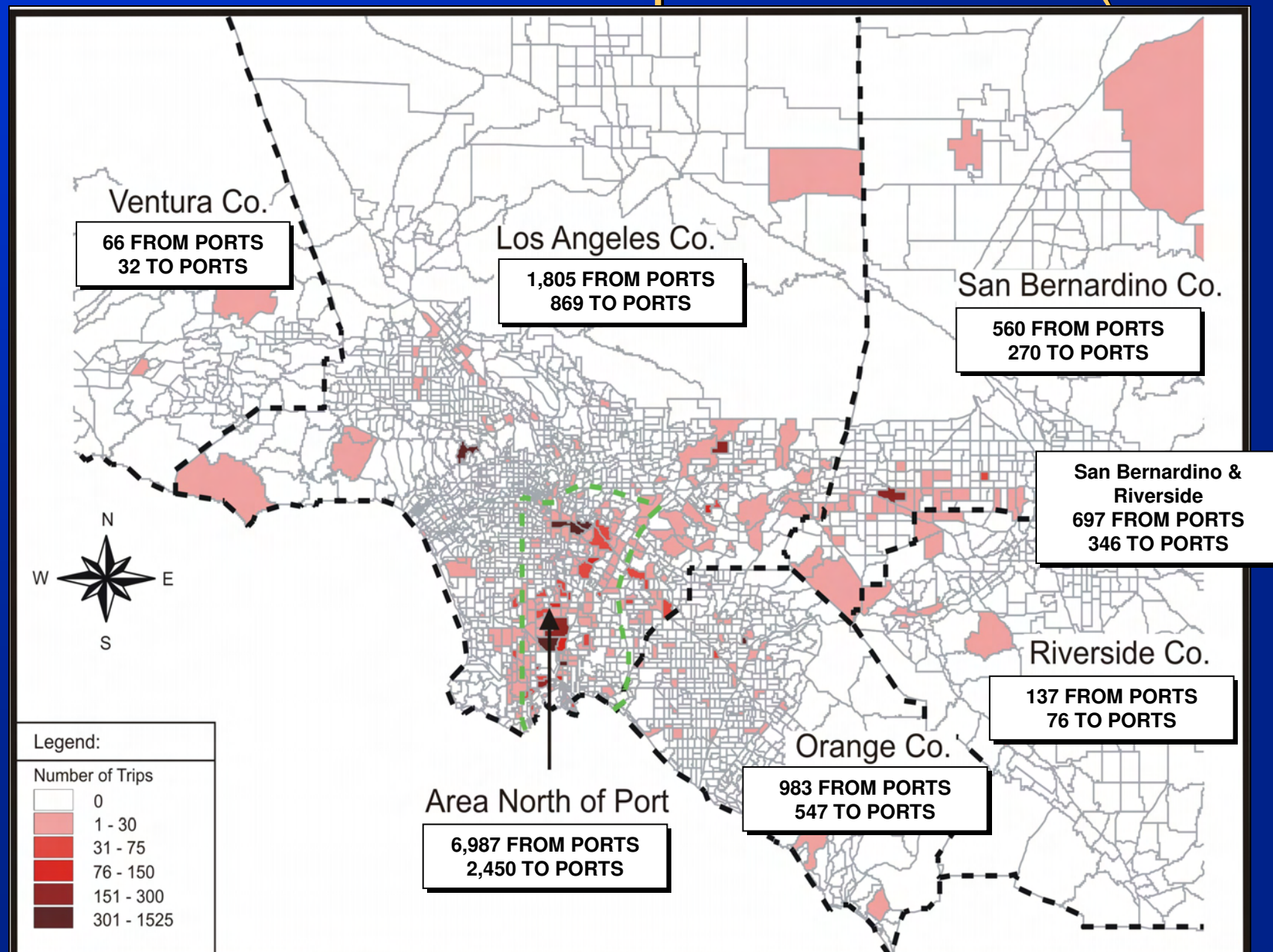


Truck Reduction

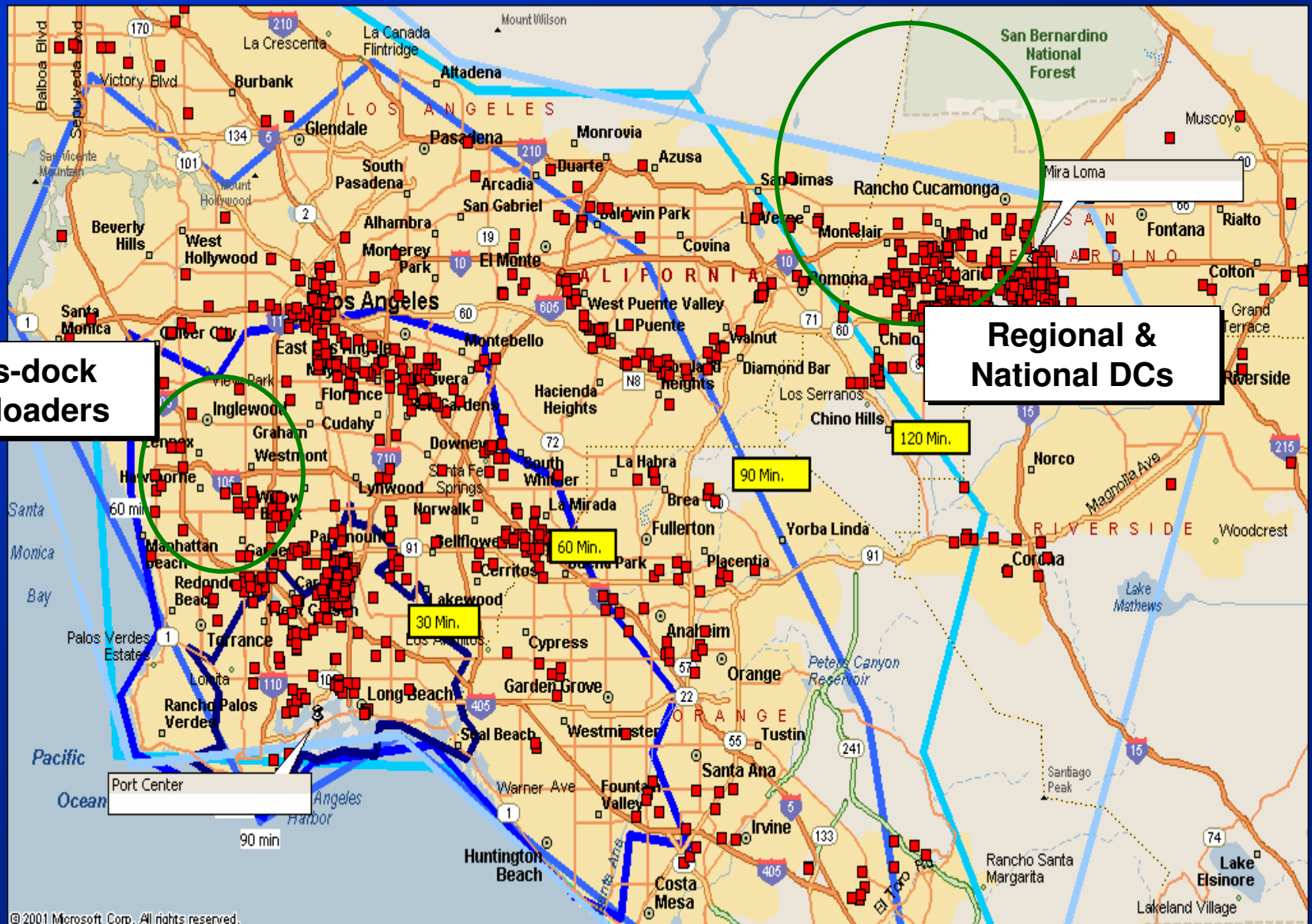
Inland Port Purposes and Benefits

- Freight Traffic Congestion Reduction
- Emissions Reduction
- Influencing Economic Development
- NOT FOR INCREASING PORT CAPACITY
(within the next 15 years)

POLB/POLA Truck Trip Distribution (2005)

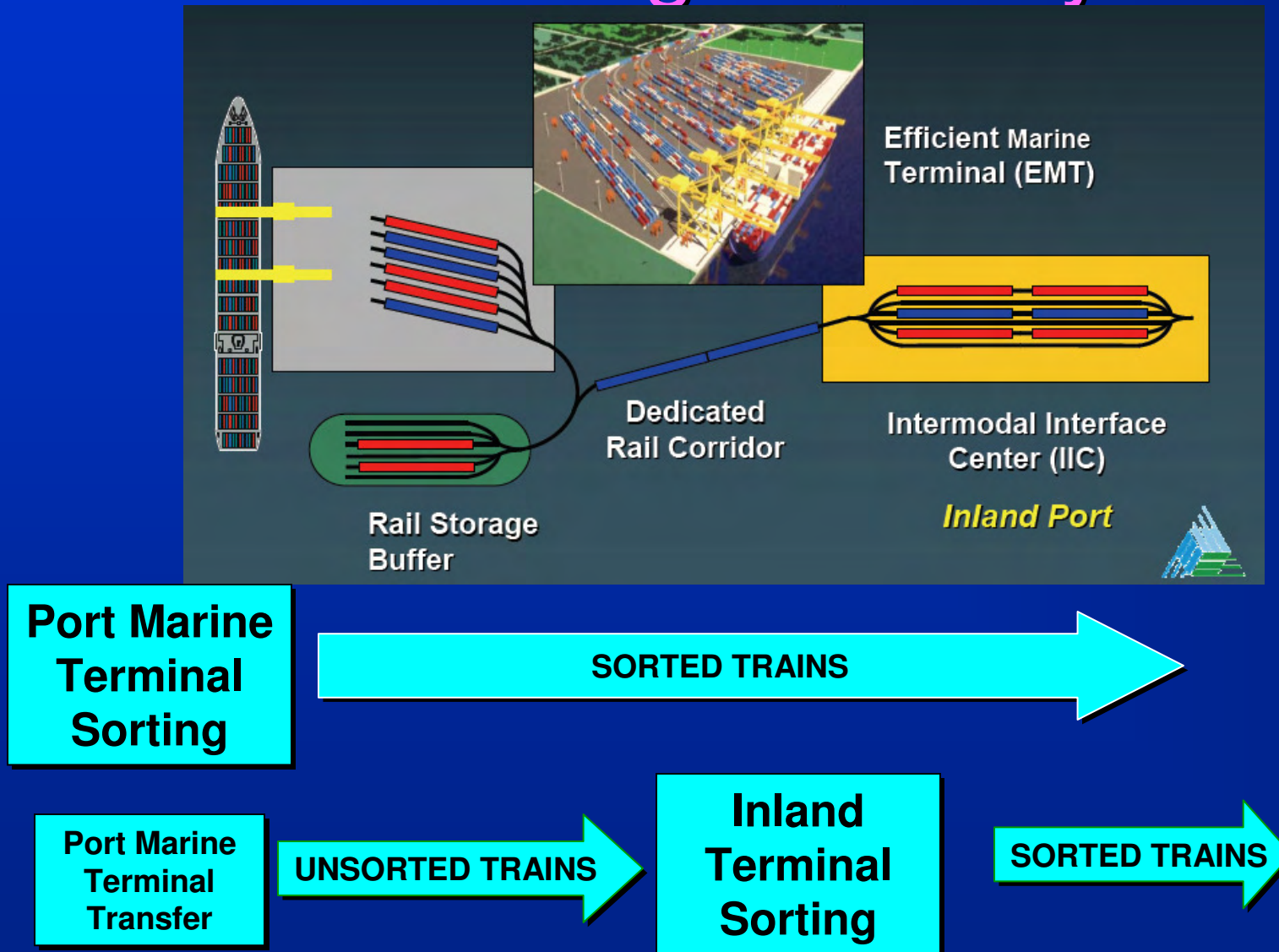


POLB/POLA Container Cargo Logistics



Truck Reduction

Inland Port - Agile Port System



THE WALL STREET JOURNAL



“You’ll appreciate this - it’s cutting-edge technology.”

Truck Reduction

Zero Emissions Container Mover System

Study Goals

- Evaluate Zero-Emission Cargo Conveyance Technologies for Possible Applications in the Ports of Los Angeles and Long Beach and region
- Identify Technologies That Are Market Ready and Technically Appropriate for possible near-mid-long term implementation (short and/or long haul)



ZECMS Technology Overview

14 Technology Proponents

- Electric Cargo Conveyor System- **General Atomics**
- Environmental Mitigation & Mobility Initiative- **American Maglev Technology**
- Magnetic Levitation- **Transrapid**
- Safe Freight Shuttle- **Freight Shuttle Dev. Corp.**
- Air Rail- **SkyTech Corporation**
- Southern California Guideway- **Whelan & Assoc.**
- Cargo Rail- **MegaRail Transportation Systems**
- Rail Motor- **Launch Point Technologies**
- LIM-Rail and MagRail- **Innovative Transportation Systems**
- Automated Shuttle Car System- **Automated Terminal Systems**
- Container Port Skid- **Tubular Rail**
- Container-Express- **CitiCar**
- AirHeLo- **Teeco International**
- Aeroscraft- **Worldwide Aeros Corporation**



ZECMS Technology Assessment: Screening Criteria

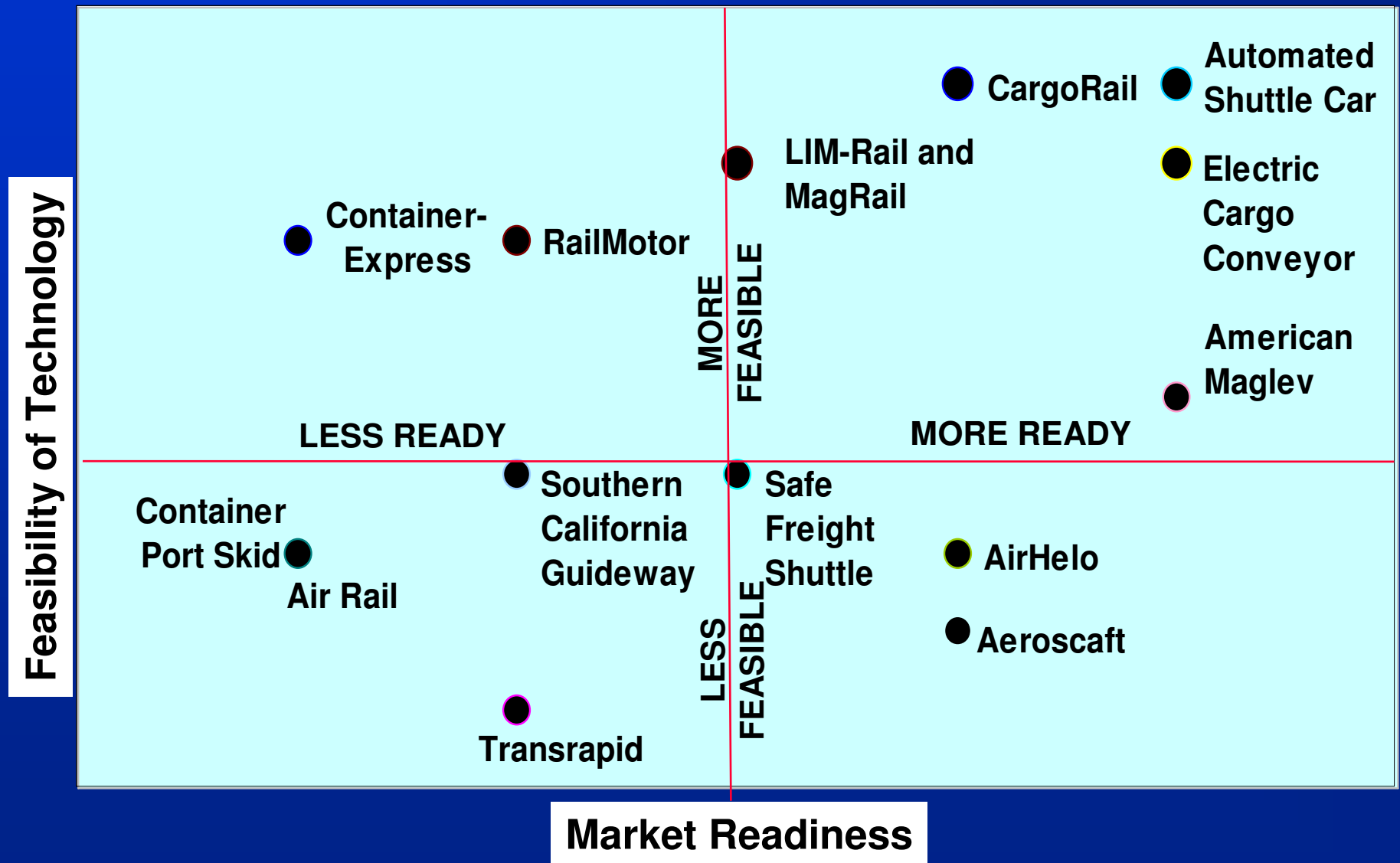
Firm Capabilities

- Has developed a marine container transportation system that can reach prototype in 5 years
- Proponent has built “proof of concept” prototype
- Proponent has identified strategic partners
- Has developed other commercially viable transportation products
- Has a marine terminal transportation business plan
- Can provide at least 2 years of financial statements

Feasibility of Technology

- Using commercially proven systems or components
- Status of technology concept:
 - (a) conceptual idea or
 - (b) conceptual design, existing design, existing components and/or existing system:
 - Propulsion system
 - Command and control
 - Loading and unloading
 - Vehicles
 - Guideway switching
 - Sorting and storage
- Operating plan
- Zero emission technology

ZECMS Technology Assessment: Prelim Screening



ZECMS – Proposed System

ECCO Test Track – General Atomics, San Diego



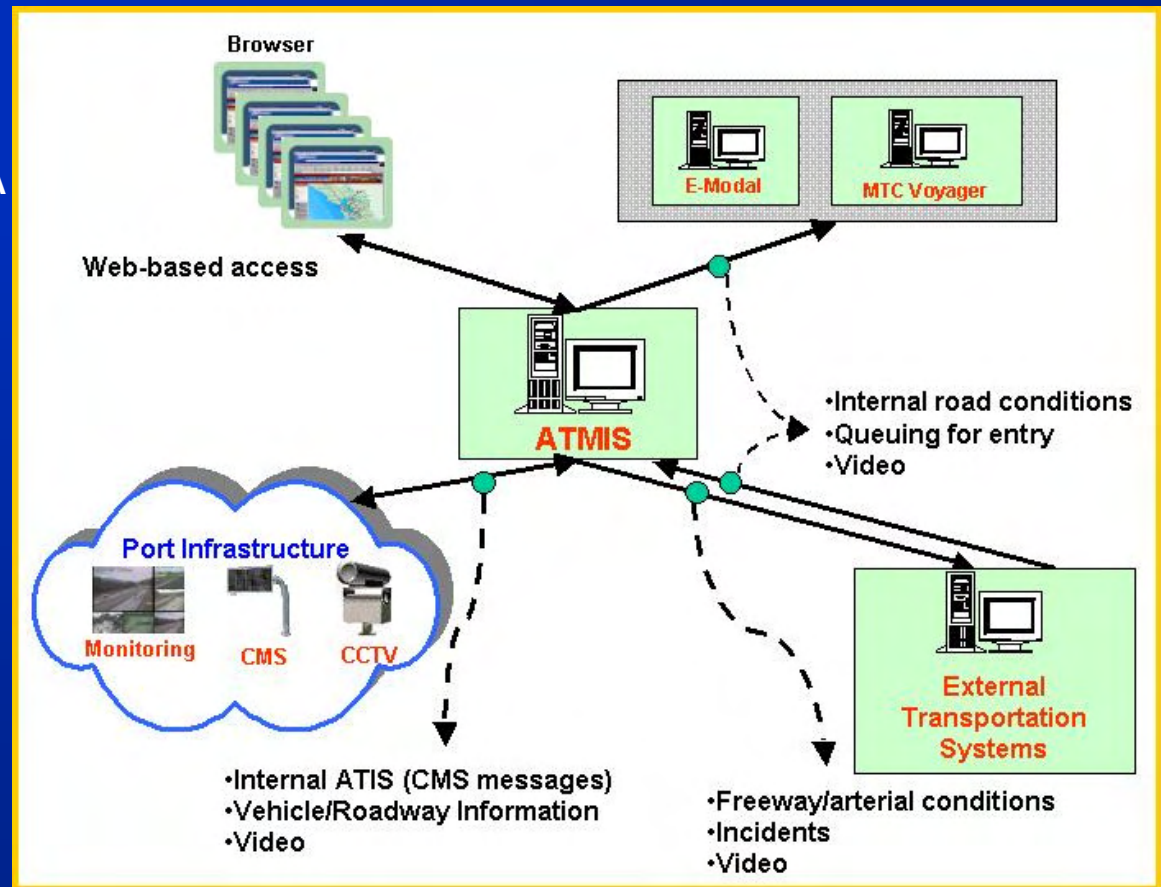
Transportation System Management

POLB/POLA Intelligent Transportation Systems Project

Advanced Transportation Management, Information, and Security System

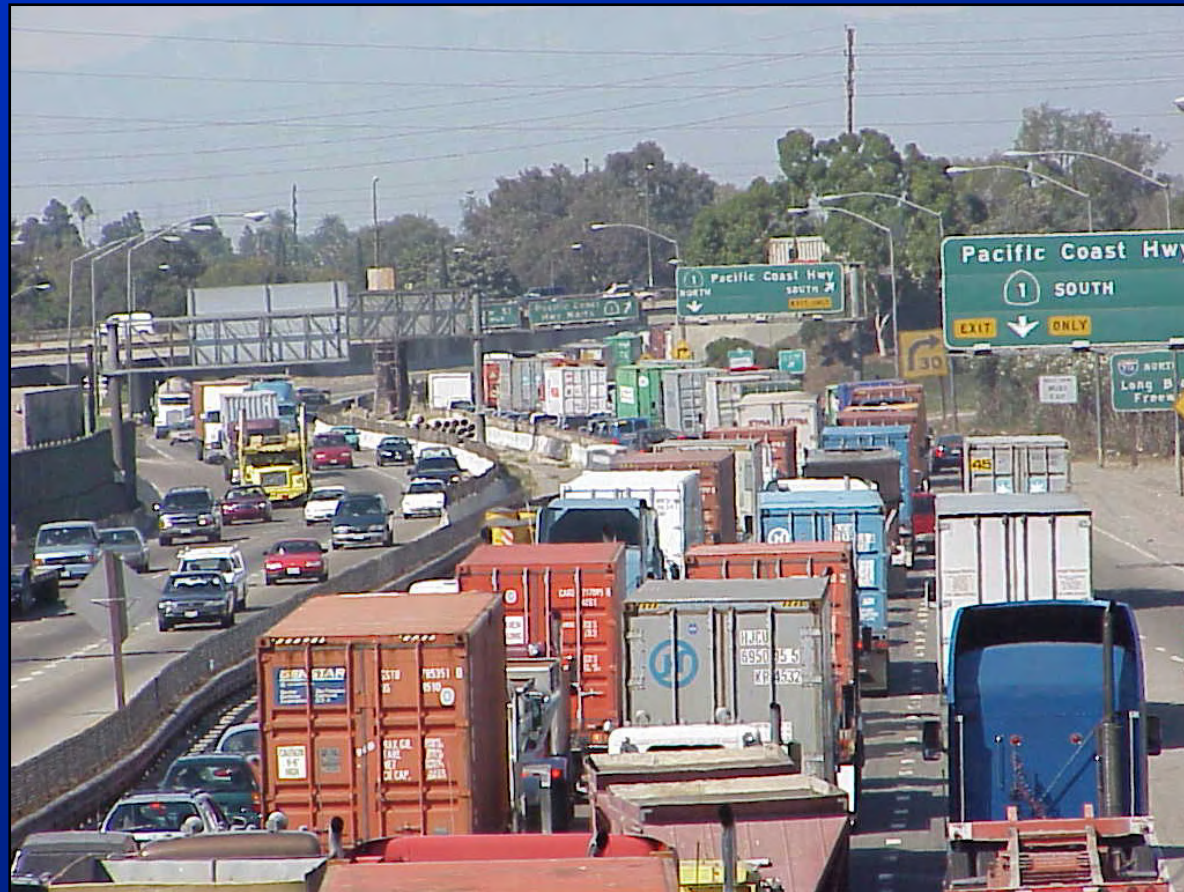
Conceptual Architecture

- Total cost: \$11.5m
- \$5.05 from POLB, POLA, ACTA
- Awarded \$6.03 M from MTA; \$0.41 M FY02 Federal Appropriations
- Integration w/ Ports Security projects
- Important component of overall I-710 Corridor ITS program; complements LA County ITS project



Reducing Congestion/Emissions

Even with the Alameda Corridor and increased use of on-dock rail, expanded hours of operation of all entities in the supply chain, and ITS, physical improvements are still needed to accommodate long-term cargo growth.



Physical Improvements (near-term) POLB/POLA-US Trade Gateway Intermodal Transportation System Projects

Proposed Project	Lead Agency	Project Cost (millions)
Gerald Desmond Bridge	POLB	\$800.5
SR-47 Expressway	ACTA	\$557.0
I-110 Connectors	POLA	\$134.0
Navy Way Interchange	POLA	\$40.0
Ports Rail Systems	Ports, ACTA	\$631.1
Alameda Corridor-East	ACE, Counties	\$3,823.0
Colton Crossing	SANBAG	\$280.0
TOTAL		\$6,265.6

Physical Improvements

POLB/POLA-US Trade Gateway

Intermodal Transportation System Projects

Project Benefits : reduced truck/auto emissions by:

- Replacing/retrofitting trucks
- Reducing port truck trips via increased on-dock rail
- Reducing roadway congestion, which reduces emissions

National/State Significance

- TCIF projects recommended for Proposition 1B funds in State Goods Movement Action Plan
- G. Desmond Bridge & SR 47 are “Projects of National & Regional Significance,” and “High-Priority Projects” as congressionally designated in SAFETEA-LU

POLB/POLA-US Trade Gateway Intermodal Transportation System Projects



Gerald Desmond Bridge Replacement

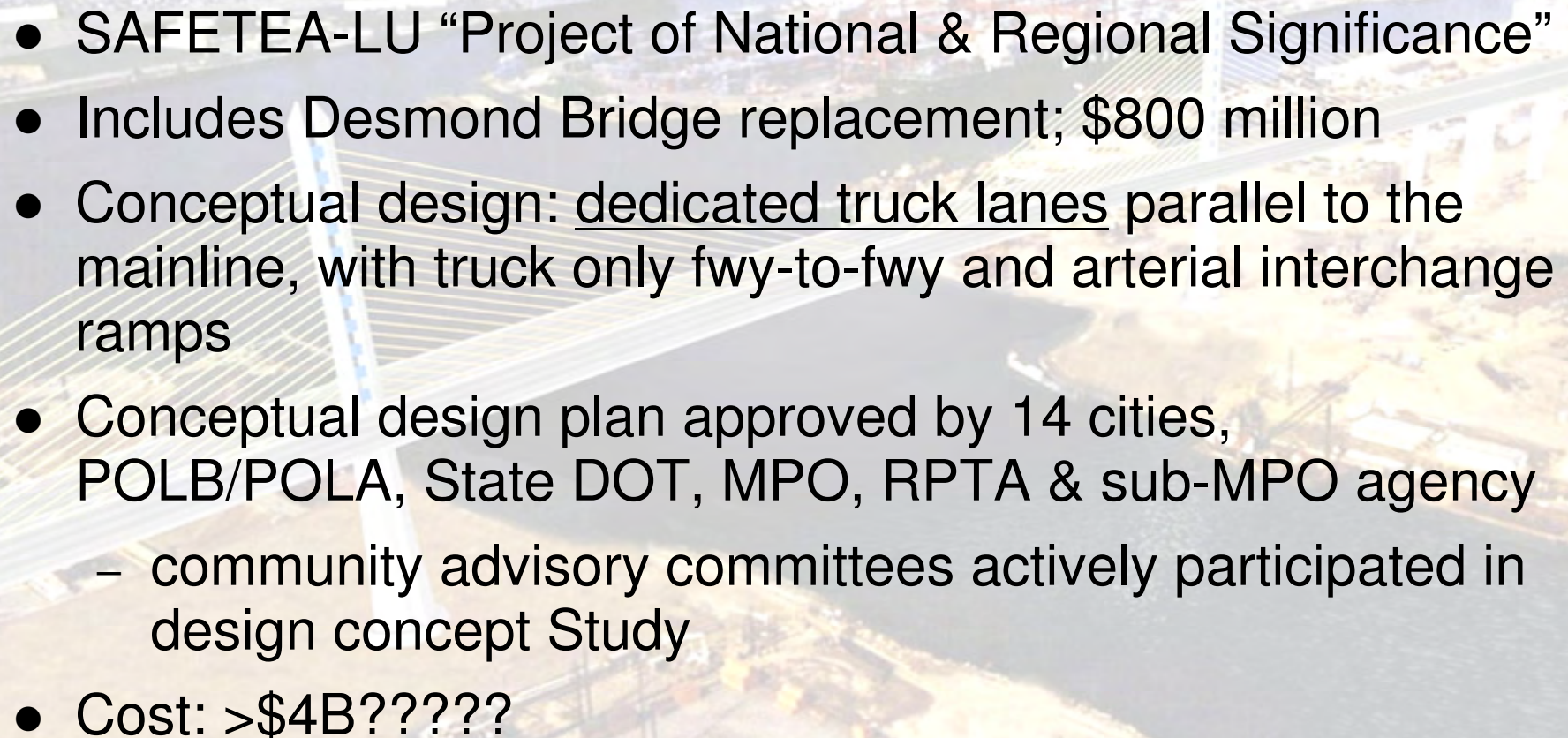


Physical Improvements (long-term)

POLB/POLA-US Trade Gateway

Intermodal Transportation System Projects

I-710 Corridor/Gerald Desmond Bridge Gateway Program

- 
- SAFETEA-LU “Project of National & Regional Significance”
 - Includes Desmond Bridge replacement; \$800 million
 - Conceptual design: dedicated truck lanes parallel to the mainline, with truck only fwy-to-fwy and arterial interchange ramps
 - Conceptual design plan approved by 14 cities, POLB/POLA, State DOT, MPO, RPTA & sub-MPO agency
 - community advisory committees actively participated in design concept Study
 - Cost: >\$4B?????

POLB/POLA Transportation Programs

Prop 1B-TCIF: Southern California Coalition



Federal



State



Regional



Sub-Regional



County



lacity.org



Local/other ports



Regional rail authorities

Trade Corridors Improvement Fund (TCIF) Southern California Coalition Consensus Position

- Participating agencies include CEOs of Ports, Metro, OCTA, RCTC, SANBAG, VCTC, Caltrans, AQMD, ACTA & Alameda Corridor East
- Recommended allocation process: 1) allocation first to 4 TCIF regions in State, using a formula; followed by 2) selection of region's projects based upon criteria prescribed by region

Trade Corridors Improvement Fund (TCIF) Southern California Coalition Consensus Position

1. Allocate funds by GMAP region based upon:
 - Annual TEUs of containerized cargo
 - Annual waterborne (TEUs)
 - waterborne, non-containerized, non-liquid bulk cargo (tons)
 - vehicle hours of delay/day (measure of congestion)
 - Annual heavy-duty truck miles traveled
 - freight train miles/day
 - vehicle hours/day of delay @ rail xings
 - DPM/NOx health risk

Trade Corridors Improvement Fund (TCIF)

Southern California Coalition Consensus Position

2. Projects nominated from system plan developed by regional stakeholders, based on regionally determined criteria, consistent with Prop. 1B
 - Criteria to include:
 - Reduction of: emissions/health risk, motorist delays
 - Leveraging of private funding
 - Federal trade corridors of national significance
 - System-wide benefits
 - Safety improvement

